

Type I Progress Report

- a. Title. The Interdependence of Lake Ice and Climate in Central North America.
- b. Proposal Number. 113
- c. GSFC ID Number. PR506
- d. Problem Areas. The most significant problem uncovered during the initial phase of this study has been the identification of study lakes for which suitable background data exist. A total of 280 lakes have thus far been catalogued. Adequate morphometric data is available for just 136 of these, with the majority concentrated in Wisconsin and northern Saskatchewan. As a result, it now appears that the limnological portions of the study will be confined to the above mentioned areas. It should be emphasized, however, that this constraint is purely geographical and in no way affects the investigations's objectives. Furthermore, all meteorological aspects will receive full consideration over the entire study area.

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for any use made thereof."

John T. Martin, designated Co-investigator, is no longer a WOLF employee. However, he has agreed to continue working on this project in a consulting capacity.

- e. Accomplishments. All work associated with the investigation is proceeding on schedule. Support software has been designed and coded; testing has begun on portions of the program package. Candidate lakes for detailed study have been catalogued by name, location (latitude, longitude, political subdivision), morphometric parameters (area, mean depth, maximum depth), and freeze-thaw history. In acquiring this information numerous sources at federal, state, provincial, and local levels of government were contacted. In addition to the study lakes, 100 meteorological stations (62 Canadian, 38 U.S.) covering the entire test site were selected as primary sources of meteorological data. Orders for the receipt of data have been placed with the appropriate agencies. annotated aeronautical charts (scale 1:1,000,000) were procured to serve as base maps for ERTS image analysis. Finally,

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e. Accomplishments (Cont.).

a comprehensive bibliography and reference library of fresh water freeze-thaw phenomena have been compiled for use in subsequent portions of the investigation.

f. Projected Work. During the next bimonthly reporting period, the following tasks are planned.

- Software Package Completion.
Final coding, testing, and debugging of computer programs associated with the project will be carried out.
- Study Lake Identification.
A continued effort will be made to increase the number of lakes targeted for intensive study.
- Data Analysis Simulation.
The ERTS User Services facilities will be used for acquiring retrospective ERTS imagery of the study area via Data Request. These imagery will serve to familiarize the analysts with the scale and quality of ERTS data products as well as offer a means of testing image interpretation procedures prior to the actual receipt of Standing Order products.
- Image Analysis.
Upon receipt of Standing Order products operational image analysis will begin according to the proposed Data Handling Plan.

g. Results. None.

h. Publications. None.

i. Recommendations. None.

j. Standing Order Form Changes. None.

k. Data Request Forms. None.